

CLAIMS

What is claimed is:

1. A human-machine communication method comprising:
receiving a first statement in a natural language from a user;
generating first information based on the first statement;
5 storing context information of at least one of the first statement and the first
information;
optionally generating a question to be presented to the user in the natural language
based on the context information;
receiving a second statement in the natural language from the user; and
10 generating second information based on the second statement and the context
information.
2. The method of claim 1 further comprising:
incorporating content information generated based on the second information into a
15 web page.
3. The method of claim 2 further comprising:
dynamically generating the web page based on the content information.
- 20 4. The method of claim 1 further comprising:
generating grammatical data for the first statement;
generating one or more parsing tokens based on the grammatical data; and
storing the parsing tokens as part of the context information.
- 25 5. The method of claim 4 further comprising:
adding, modifying or removing the stored parsing tokens based on the second
statement.
- 30 6. The method of claim 1 further comprising:
identifying linguistic structures in the second statement based on the context
information.
7. The method of claim 6 further comprising:
identifying an antecedent to a pronoun in the second statement.
- 35 8. The method of claim 7 further comprising:

disambiguating homonym in the second statement.

5b
A4
9. The method of claim 1 further comprising:
storing and updating the context information each time a new statement in the
natural language is received.

5
10. The method of claim 1 further comprising:
providing at least one of a superlative and a comparison of the first information
based on the context information, wherein the first information includes a plurality of items
that can be compared with each other.

10
11. A human-machine communication system comprising:
a server computer comprising:
an input device configured to receive a first statement in a natural language
15 from a user, wherein the server computer is configured to generate first information based
on the first statement;
a memory bank configured to store context information of at least one of the
first statement and the first information;
the input device further configured to receive a second statement in the
20 natural language from the user, wherein the server computer is further configured to
optionally generate a question to be presented to the user in the natural language based on
the context information and configured to generate second information based on the second
statement and the context information.

25
5b
A4
12. The system of claim 11 further comprising:
a client computer configured to receive a plurality of statements from the user and
configured to forward the received plurality of statements to the server computer.

30
13. The system of claim 11 wherein the server computer further comprises:
a knowledge database configured to provide language processing information,
wherein the server computer is further configured to generate a plurality of parsing
tokens based on the first statement and the language processing information, and
wherein the memory bank is further configured to store the parsing tokens as part of
35 the context information.

14. The system of claim 13 wherein the server computer is further configured to add, modify or remove the stored parsing tokens in the memory bank based on the second statement.

5 15. The system of claim 13 wherein the server is further configured to generate the plurality of parsing tokens based on, in part, timing cues of the first statement.

16. The system of claim 11 wherein the server computer is further configured to identify linguistic structures in the second statement based on the context information.

10 17. The system of claim 16 wherein the server computer is further configured to identify an antecedent to a pronoun in the second statement.

18. The system of claim 16 wherein the server computer is further configured to identify a disambiguating homonym in the second statement.

15 19. The system of claim 11 wherein the server computer is further configured to store and update the context information each time a new statement in the natural language is received by the input device.

20 20. The system of claim 11 wherein the server computer is further configured to provide at least one of a superlative and a comparison of the first information based on the context information, wherein the first information includes a plurality of items that can be compared with each other.

25 21. The system of claim 11 wherein the server computer further comprises:
an output controller configured to dynamically generate a web page at a client computer based on at least one of the first information and the second information.

30 22. A human-machine communication method, comprising:
receiving a first statement in a natural language from a user;
generating first information based on the first statement;
storing context information in a system state memory that is a function of the first information;
generating a database query that is a function of the first information;
35 generating database output that is a function of the database query;

generating second information that is a function of the database output and the stored context information;

storing an expectation in the system state memory that is representative of an expected form of a statement from the user;

5 receiving a second statement in a natural language from a user; and
utilizing the expectation to comprehend the second statement.

10

15

20

25

30

35